

**Amendments to the claims**

This listing of claims will replace all prior versions and listings of claims in the application.

**CLAIMS:**

1. (Currently amended) A method for stimulating or activating ~~at least one of~~ differentiation, proliferation and/or egress of at least one immune cell type in a human patient having neutropenia, the method comprising:

- -administering to said patient a therapeutically effective dose of at least one S100 protein selected from the group consisting of: S100A8, S100A9 and S100A12 homodimers, and S100A8/S100A9 heterodimers; and
- measuring the level of circulating mature immune cells in circulating blood of said patient.

2. – 3. (Cancelled)

4. (Original) The method of claim 1, wherein said immune cells are selected from the group consisting of a neutrophil, a monocyte, a macrophage, a platelet, a synoviocyte, a leukocyte and a phagocyte cell.

5. (Cancelled)

6. (Previously amended) The method of claim 1, wherein said human patient is a patient having neutropenia associated with at least one of: cancer, anti-cancer chemotherapeutic treatment or bone-marrow transplant.

7. (Cancelled)

8. (Original) The method of claim 1, wherein administering is intravenous, oral, subcutaneous, intramuscular or intraperitoneal administration.
9. (Withdrawn) A method for reducing the risk of microbial infection in a patient comprising administering at least one S100 protein or derivatives thereof in an effective amount to said patient.
10. (Withdrawn) The method of claim 9, wherein said S100 protein is a Myeloid Related Protein (MRP).
11. (Withdrawn) The method of claim 9, wherein said patient is a patient having or having had cancer.
12. (Withdrawn) The method of claim 9, wherein said patient is under or having received chemotherapy treatment.
13. (Withdrawn) The method of claim 9, wherein said administrering is intravenous, oral, subcutaneous, intramuscular or intraperitoneal administration.
14. (Withdrawn) Use of at least one S100 protein or a derivative thereof in the manufacture of a medicament for modulating at least one immune cell type in a patient.
15. (Withdrawn) The use of claim 14, wherein said S100 protein is a Myeloid Related Protein (MRP).
16. (Withdrawn) The use of claim 14, wherein said modulation is stimulating or activating at least one of differentiation, proliferation, or migration of said immune cells.
17. (Withdrawn) The use of claim 14, wherein said immune cells are selected from the group consisting of a neutrophil, a monocyte, a macrophage, a platelet, a synoviocyte, a leukocyte and a phagocyte cell.
18. (Withdrawn) The use of claim 15, wherein said MRP is S100A8, S100A9, S100A12 or combinations thereof.

19. (Withdrawn) Use of at least one of a MRP or a derivative thereof in the manufacture of a medicament for reducing the risk of microbial infection in a human or an animal.

20. (Withdrawn) The use of claim 19, wherein said modulation is stimulating or activating at least one of differentiation, proliferation, or migration of said immune cells.

21. (Withdrawn) The use of claim 19, wherein said immune cells are selected from the group consisting of a neutrophil, a monocyte, a macrophage, a platelet, a synoviocyte, a leukocyte and a phagocyte cell.

22. (Withdrawn) The use of claim 19, wherein said MRP is S100A8, S100A9, S100A12 or combinations thereof.

23. (Withdrawn) A composition for use in for modulating at least one immune cell type in a patient comprising an effective amount of at least one S100 protein or derivatives thereof with a pharmaceutically acceptable carrier.

24. (Withdrawn) The composition of claim 23, wherein said S100 protein is a Myeloid Related Protein (MRP).

25. (Withdrawn) A composition for use in reducing the risk of microbial infection in a patient comprising an effective amount of at least one S100 protein or derivatives thereof with a pharmaceutically acceptable carrier.

26. (Withdrawn) The composition of claim 25, wherein said S100 protein is a Myeloid Related Protein (MRP).

27. (New) A method for treating neutropenia in a human patient suffering therefrom, the method comprising:

- ascertaining that the patient has neutropenia; and
- administering to said patient a therapeutically effective dose of at least one S100 protein selected from the group consisting of: S100A8, S100A9 and S100A12 homodimers, and S100A8/S100A9 heterodimers.

28. (New) The method of claim 27, wherein said patient has previously been diagnosed to have neutropenia.

29. (New) The method of claim 27, wherein said human patient is a patient having neutropenia associated with at least one of: cancer, anti-cancer chemotherapeutic treatment or bone-marrow transplant.

30. (New) The method of claim 29, wherein said patient has previously been diagnosed to have neutropenia.

31. (New) A method for treating neutropenia in a human patient suffering therefrom, the method comprising:

- administering to said patient a therapeutically effective dose of at least one S100 protein selected from the group consisting of: S100A8, S100A9 and S100A12 homodimers, and S100A8/S100A9 heterodimers; and
- monitoring egress of mature immune cells from bone marrow to peripheral circulation of said patient.

32. (New) The method of claim 31, wherein said human patient is a patient having neutropenia associated with at least one of: cancer, anti-cancer chemotherapeutic treatment or bone-marrow transplant.

33. (New) The method of claim 31, wherein said immune cells are selected from the group consisting of a neutrophil, a monocyte, a macrophage, a platelet, a synoviocyte, a leukocyte and a phagocyte cell.